WHAT IS CLAIMED IS:

        1.   An optical communication device comprising:
5   a continuous time filter having an adjustable bandwidth,
wherein the continuous time filter reduces channel induced
distortion in an incoming data signal, wherein the continuous
time filter generates a filtered incoming data signal; and
        a decision feedback equalizer, coupled to the continuous
10   time filter, for reducing inter-symbol interference in the
filtered incoming data signal.

        2.   The communication device of claim 1 further
comprising a bandwidth controller that estimates bandwidth
15   error of the continuous time filter and generates a control
signal to adjust the bandwidth of the continuous time filter
to reduce the bandwidth error.

        3.   The communication device of claim 1 wherein the
20   continuous time filter comprises at least one cascaded low
pass filter.

        4.   The communication device of claim 3 wherein each of
the at least one low pass filter comprises a differential pair
25   of transistors having adjustable capacitive loads coupled to
outputs of the differential pair of transistors for adjusting
the bandwidth of the low pass filter.

        5.   The communication device of claim 2 wherein the
30   decision feedback equalizer comprises a summer that generates
a combined signals by combining an equalized feedback signal
with the filtered incoming data signal to reduce the inter-
symbol interference in the filtered incoming data signal.

35   6.   The communication device of claim 5 wherein the

bandwidth controller comprises:

    an analog to digital converter, coupled to the summer,
5   that digitizes the combined signal;

    a digital limiter, coupled to receive the digitized combined signal from the analog to digital converter, that generates a binary signal from the digitized combined signal; and

10   a combiner that subtracts the digitized combined signal from the binary signal to generate a bandwidth error signal.

    7.   A communication system comprising:

    a transmitter transmitting an information signal over a
15   communication media; and

    a receiver coupled to the communication media for receiving the transmitted information signal, wherein the receiver comprises:

    a continuous time filter having an adjustable
20   bandwidth, wherein the continuous time filter reduces channel induced distortion in a received information signal as a function of the adjustable bandwidth, wherein the continuous time filter generates a filtered information signal; and

    a decision feedback equalizer coupled to the
25   continuous time filter for reducing inter-symbol interference in the filtered information signal.

    8.   The communication system of claim 7 further comprising a bandwidth controller that estimates bandwidth
30   error of the continuous time filter and generates a control signal to adjust the bandwidth of the continuous time filter to reduce the bandwidth error

    9.   The communication system of claim 7 wherein the
35   continuous time filter comprises at least one cascaded low

pass filter.

10.   The communication system of claim 9 wherein each of the at least one low pass filter comprises a differential pair of transistors having adjustable capacitive loads coupled to outputs of the differential pair of transistors for adjusting the bandwidth of the low pass filter.

11.   The communication system of claim 9 wherein the decision feedback equalizer comprises a summer that generates a combined signal by combining an equalized feedback signal with the filtered information signal to reduce the inter-symbol interference in the filtered incoming data signal.

12.   The communication system of claim 11 wherein the bandwidth controller comprises:
an analog to digital converter, coupled to the summer, that digitizes the combined signal;
a digital limiter, coupled to receive the digitized combined signal from the analog to digital converter, that generates a binary signal from the digitized combined signal; and
a combiner that subtracts the digitized combined signal from the binary signal to generate a bandwidth error signal.

13.   The communication system of claim 7 wherein the receiver further comprises an optical detector for converting the received information signal to an electrical signal.

14.   A communication system comprising:
transmission means for transmitting an information signal over a communication media;
receiver means coupled to the communication media for

1   **51542/SDB/B600** - BP3393

receiving the transmitted information signal, wherein the
receiver means comprises:

5   filter means for filtering the received information
signal,

              bandwidth control means for adjusting the bandwidth
of the filter means to reduce channel induced distortion in
the received information signal, and

10   equalizer means coupled to the filter means for
reducing inter-symbol interference in the filtered information
signal.

      15. A method for communicating an information signal,
15   comprising:

      filtering a first symbol of an information signal using a
first filter bandwidth;

      equalizing the filtered information signal;

      generating a bandwidth error signal from at least the
20   equalized signal; and

      filtering a second symbol of the information signal with
a second filter bandwidth to reduce the bandwidth error
signal.

25   16. An optical communication device comprising:

      a continuous time filter having at least one cascaded low
pass filter, each of the at least one cascaded low pass filter
having an adjustable bandwidth, wherein the continuous time
filter reduces channel induced distortion in an incoming data
30   signal, wherein the continuous time filter generates a
filtered incoming data signal; and

      a decision feedback equalizer coupled to the continuous
time filter for reducing inter-symbol interference in the
filtered incoming data signal.

35

-18-

51542/SDB/B600 - BP3393

17.   The communication device of claim 16 further comprising a bandwidth controller that estimates bandwidth
5   error of the continuous time filter and generates at least one control signal to adjust the bandwidth of the at least one cascaded low pass filter to reduce the bandwidth error.

18.   The communication device of claim 16 wherein each of
10   the at least one low pass filter comprises a differential pair of transistors having adjustable capacitive loads coupled to outputs of the differential pair of transistors for adjusting the bandwidth of the low pass filter.

15   19.   The communication device of claim 17 wherein the decision feedback equalizer comprises a summer that combines an equalized feedback signal with the filtered incoming data signal to reduce the inter-symbol interference in the filtered incoming data signal.
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20.   The communication device of claim 19 wherein the bandwidth controller comprises:
an analog to digital converter, coupled to the summer, that digitizes the combined signal;
25   a digital limiter, coupled to receive the digitized combined signal from the analog to digital converter, that generates a binary signal from the digitized combined signal; and
a combiner that subtracts the digitized combined signal
30   from the binary signal to generate a bandwidth error signal.

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